

REMARKS

Favorable reconsideration of this application is respectfully requested in light of the previous amendments and the following remarks.

Before discussing the subject matter recited in the claims of this application and as a preface to commenting on the issues raised in the most recent Official Action, the following general overview is provided of features and operational characteristics associated with a modular RFID tagging method and item according to embodiments described and illustrated in the present application.

As discussed in the application, a particular sequence of assembly according to exemplary embodiments can help overcome problems associated with assembling an RF antenna and an RFID module, the module being a chip. In particular, there is first provided an RF antenna on an item, with the RFID module (chip) then being applied to the item after the antenna, with the antenna and chip being coupled by a non-contact electrical coupling. Electrical pads are provided and aligned so as to provide for the "non-contact electrical coupling". As one example, one preferred embodiment has "conductive pads 303" that provide "capacitive coupling" or "an induction loop". Of course, the claimed invention is not limited to the disclosed embodiments.

Turning now to the Official Action, Claims 1 and 14, which are the only independent claims currently pending in this application, have been rejected as being unpatentable based on the disclosures in U.S. Patent No. 6,107,920, hereinafter Eberhardt, U.S. Patent No. 6,384,727, hereinafter Diprizio, and U.S. Patent No. 6,181,287, hereinafter Beigel.

As discussed previously, Eberhardt describes an article to which an antenna 22 is applied. The antenna 22 includes antenna elements 24 and 26 provided with coupling regions 28 and 30. Applied to the regions 28 and 30 is a chip assembly 12 having a conductive pattern 37 that engages the regions 28 and 30. Contact is a physical contact as best seen in Figure 4. Conductive pads 48 and 50 engage the coupling regions 42 and 44.

As also discussed previously, Beigel discloses an assembly in which, as best seen in Figures 2 and 3 of Beigel, a chip 18 is applied to a substrate 12 which in turn is provided with a capacitive/inductive circuit 19 for the purpose of connecting the chip 18 to the antenna elements 14. However, as correctly noted in the Official Action, neither Eberhardt nor Beigel disclose an RFID electronics module which is a chip mounted to a substrate, much less an RF antenna coupled to an RFID electronics module by a non-contact coupling.

The Official Action goes on to allege that, among other things, Diprizio discloses a chip is mounted on the substrate 20, and that this alleged chip-on-substrate constitutes an RFID electronics module which is a chip mounted to a substrate. The Official Action further alleges that an obvious combination of the Eberhardt, Beigel and Diprizio patents would result in an item or method in which an RFID electronics module, which is a chip mounted to a substrate, is applied to an item so as to be electrically coupled to an RF antenna on the item and provide an RFID capability for the item, the RF antenna being coupled to the RFID electronics module by a non-contact coupling.

Applicants respectfully submit that, although Eberhardt discloses use of conductive pads 28 and 30, they are a direct coupling, not a "non-contact" coupling.

There is no suggestion of using an induction loop or a capacitive coupling. Still further, there is no suggestion in any of the references that improvements in manufacture can be overcome by a non-contact electrical coupling. In particular, there is no suggestion that methods of manufacture can be improved and previous problems overcome by applying the antenna, and then applying the chip and establishing a non-contact electrical coupling via aligning conductive pads. Indeed, the prior art relied upon by the Examiner does not even consider the fragility of the components involved and how, for example, if applied to the item at early stages of the packaging manufacture, the chip may be damaged, as opposed to applying the chip at a later date and establishing a non-contact coupling.

In light of the foregoing, Applicants respectfully submit that the method recited in amended Claim 1, in which an RF antenna is provided with a first set of electrically conductive pads, an RFID electronics module is provided with a second set of electrically conductive pads, and the first and second set of electrically conductive pads are aligned in a predetermined manner relative to each other when attaching the RFID electronics module to the item, is clearly patentably distinguishable from the disclosures in the applied prior art.

Applicants also respectfully submit in light of the foregoing that the item recited in amended Claim 14, in which an RF antenna and module have engaged electrically conductive pads aligned in a predetermined manner relative to each other when the RFID electronics module is applied to the items so as to provide the electrical coupling, is also clearly patentably distinguishable from the disclosures in the applied prior art.

In view of the above amendments and remarks, it is respectfully requested that the rejections of independent Claims 1 and 14 be withdrawn.

The dependent claims define additional distinguishing aspects associated with the present application. These claims are allowable at least by virtue of their dependence from allowable independent claims and so a detailed discussion of the additional distinguishing features recited in these dependent claims is not presented at this time. Applicant reserves the right to present such arguments later during prosecution or on appeal.

Early and favorable action with respect to this application is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800.

Respectfully submitted,

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